Database Development

Report

What did we do?

- RIPE database beta v1.1 available
  - implementation supports nearly run time mirroring for shadow/mirror databases
  - BSD DB package fully supported
  - more secure way for overruling the maintainer security mechanism
  - new network update mechanism, protected by an access list
  - much less memory usage
- New database HOWTO available: do ‘whois help’

Database stats(960126)

- as-macro: 37
- aut-num: 653 (547)
- community: 7
- domain: 21812 (14710)
- dom-prefix: 6
- inetnum: 42069 (36318)
- inet-rtr: 76
- mntner: 478
- person: 53779 (43259)
- route: 12593 (11201)

total number of objects: 131510 (951010: 106479)

Database problems
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follow up

- Indexes grew too large, BSD DB has no problems so far and is now fully supported. BSD DB is available at:

  ftp://ftp.ripe.net/tools/db.1.85.tar.gz

- Recent machine (harddisk) crashes. We are now evaluating RAID arrays. Will be put in production as soon as posible.

- beta version with some minor patches is stable enough and will be put in production.

Real Time Mirroring
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How does it work?

- ❍ updates are sent to the master database
- ❍ approved (atomic) updates/deletions get a serial number
- ❍ a tool queries a master/secondary database every once and a while to get the new updates and updates the local database
- ❍ when error: resync by ftp

What will be next?

- ❍ updates are sent to the master database
- ❍ approved (atomic) updates get a serial number
- ❍ multicast updates to registries
- ❍ when error: a tool queries a master/secondary database for missing updates and updates the local database
- ❍ last resort: resync by ftp

Discussion:Missing pieces

- ❍ registry object which includes the neighbor registries and what kind of registry we are: full mirror, only selected sites ..., which sites are allowed to query for the newest updates
- ❍ other serial number format then just an ever increasing integer
- ❍ object attribute that contains the serial number

Serial number format

- ❍ stored: (NEW|UPD) DATE TIME SERIAL
    - ❍ NEW - new object
    - ❍ UPD - update of a previous object
    - ❍ DATE - YYYYMMDD formatted time
    - ❍ TIME - HH:MM:SS UTC time
    - ❍ SERIAL - ever increasing number but will be reset to 0 after a predefined treshold is reached.
- ❍ replaced: SOURCE DATE TIME SERIAL

Hierarchical authorization

- Needed for protection of your allocated address space, domain space
- we have currently three hierarchies:
    - domain name space
    - IP range (‘inetnum:’)
    - origin AS for routes

Hierarchical authorization

- Two proposals:
    - ‘mnt-lower:’ attribute in object that is one level higher in the hierarchy. The attribute references a maintainer that should be used for the hierarchical authorization.
    - ‘scope:’ attribute in the maintainer object that is referenced. The attribute defines in which scope the maintainer can be used:

      scope: (LOCAL|LOWER)

NIC handles

- Auto assign, ‘nic-hdl: AUTO’, ‘nic-hdl: Initials-AUTO’, ‘nic-hdl: Initials#-AUTO’
- patches for the syntax check made by Gabor Kiss
- alpha code ready, not ready for release yet

Inverse lookup

- Start with person inverse lookup
- Will be definable in config file

country: attribute

- allow multiple line country attributes with multiple countries per line
- make country attribute optional
- invent new country codes/macros
- we leave it as is

ROLE/NOC object

- same as person object with some small changes:
  - proposed name: ‘role:’
  - no NIC handle
  - other additions like ‘trouble:’
- how to reference the object ?
  - special attribute like ‘noc-contact:’
  - can be used in ‘tech-c:’ attribute